ALEKSANDROV, S.N.

USSR/Medicine - Oncology FD-2431

Card 1/1 Pub 17-14/21

Author : Aleksandrov, S. N.

Title : Effect of irradiation of the brain on the development of induced skin cancer in mice

Periodical : Byul. eksp. biol. i med. 39, 52-56, Jan 1955

Abstract : It has long been known that so-called spontaneous cancers arise from disturbed functional conditions of the nervous system. The author investigated the possible cancer-stopping effect of heavy doses of irradiation of the heads of mice with artificially induced cancers. Under a 600 roentgen dose per session, the mice died of septicopyemia between the 6th and 7th session and therefore it was possible to examine the cancers only to the 110th day of the experiment, i.e. to the moment of death. The cancers up to that time appeared in 46% of the irradiated mice against 30% of the controls. Therefore it would seem that greatly increased dosage of irradiation has the inverse effect of the lower dosage. No references. Graphs.

Institution: Experimental Cancer Department (Kondrat'yeva, T. M.) Central Scientific Research Roentgeno-Radiological Institute (Director, Prof M. N. Pobedinskiy) Ministry of Health USSR, Leningrad

Submitted : April 8, 1954

APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100830008-1"

ALEKSANDROV, S. N.

USSR/ Medicine - Physiology

Card 1/1 Pub. 22 - 45/46

Authors : Aleksandrov, S. N.

Title : Peculiarities of irradiation trauma in tonic tissues of a frog

Periodical : Dok. AN SSSR 103/1, 169-171, Jul 1, 1955

Abstract : The causes resulting in the peculiarities of the injury irradiation in the tonic tissues of a frog are explained. Three USSR references (1938-1953). Illustrations.

Institution : Central Sc. Res. Roentgen Radiological Inst.

Presented by: Academician N. N. Anichkov, March 5, 1955

ALEKSANDROV, S.N.

Characteristics of the response of tonic fibers to mechanical injuries. Biul. eksp. biol. i med. 40 no.11:65-69 N '55. (MLRA 9:1)

1.Iz TSentral'nogo nauchno-issledovatel'skogo rentgenoradiologicheskogo instituta (dir-prof. M.N. Pobedinskiy) Ministerstva zdravookhraneniya SSSR, Leningrad.
(MUSCLES, physiology,
eff. of mechanical inj. on tonic fibers in frog. musc.)

USSR/General Biology - General Histology. B

Abs Jour : Ref Zhur Biol., No 6, 1958, 23568

Author : Aleksandrov, S.N., Presnov, M.A.
Inst :
Title : The Action of Depolymerase of Desoxyribonucleic Acid on Live and Killed Cells in Tissue Cultures.

Orig Pub : V sb.: Vopr. radiobiologii, L., 1956, 338-346

Abstract : Experiments were conducted on cultures of spontaneous adenocarcinoma of mammary gland of mice and fibroblasts of the heart of chicken embryo. Even a lengthy stay (15 hours) of the culture in Ringer solution (I), which contained 40 /ml of DRA depolymerose (II) does not lead to a change of the intensity of staining of nuclei according to Felgen. In incubation of explants in borate or veronal buffer, which contained II, a weakening of the staining ability of nuclei was noted. The effect increases with increase of II concentration and lengthening

Card 1/3

Abs Jour : Ref Zhur Biol., No 6, 1959, 23568

of the incubation period. By means of neutral red, it was descovered that a buffer medium irreversibly injures the cells. In action of II on cultures which were killed by heating, hydrochloric acid, alcohol, or "suza" fixative, weakening of staining according to Felgen was noted independently of whether the cells were in the buffer solution or in I. Irradiated cultures (irradiation source- radon) were placed for 3 hours into a buffer solution with II (experimental group) or without enzyme (control). A certain weakening of staining of nuclei in the experiment was noted, which did not exceed that in non-irradiated cultures which were incubated in the buffer solution with II. In incubation with I, these differences between the experiment and the control were absent. The authors showed that the polymeric DNA in solution under influence of irradiation does not lose the ability to depolymerize under effect of II. The latter induces a weakening of

Abs Jour : Ref Zhur Biol., No 6, 1959, 23568

the staining ability of nuclei according to Felgen in cells killed by irradiation and subjected to autolysis of cultures. The authors feel that in irradiation, in differentiation from other injuring agents, nucleoproteide is isolated in which DNA and protein are securely bound. This bond is disturbed only in autolysis. -- I.M. Shapiro

ALEKSANDROV, S.N.

Zenker's degeneration as a reaction to local irreversible injury. Biul. eksp. biol. i med. 41 no.1:62-66 Ja. '56 (MLRA 9:5)

1. Iz otdela eksperimental'noy terapii (zav.-kandidat meditsinskikh nauk T.M. Kondratyeva) TSentral'nogo nauchn-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir.-prof. M.N. Pobedinskiy) Leningrad. Predstavleno deystvitel'nym chlenom AMN SSSR D.N. Nasonovym.

(WOUNDS AND INJURIES, exper., local irreversible inj. of musc. fibers causing Zenker's necrosis in frog.)
(NECROSIS
Zenker's necrosis of musc. caused by irreversible local inj. in frog)
(MUSCLES, dis. same)

ALEKSANDROV, S.N.; GALKOVSKAYA, K.F.; ZIL'BERG, Yu.G.

Comparison of the billogical action of roentgen irradiation and that of irradiation with radioactive cobalt. Med.rad. 1 no.2:80-87 Mr-Ap '56. (MIRA 9:9)

1. Iz laboratorii eksperimental'noy morfologii (zav. - prof. G.S. Strelin) Nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta (dir.-prof. M.N.Pobedinskiy) Ministerstva zdravookhraneniya SSSR.

(COBALT, radioactive,
eff. on blood picture, comparison with x-rays (Rus))
(ROENTGEN RAYS, effects,
on blood picture, comparison with radiocobalt (Rus))
(BLOOD, effect of radiations on,
radiocobalt & x-rays, comparison (Rus))

ALEKSANDROV, S. N.

The effect of Röntgen ray irradiation on the rate of protein synthesis in spontaneous and in implanted tumors of mice. S. N. Aleksandrov. *Voprosy Onkologii* 2, 417–22 (1956).—Expts. were performed on mice with Ehrlich's ascitic carcinoma, acridine sarcoma, and spontaneous cancer of the mammary gland. These were subjected to total and to localized (tumor area) Röntgen rays. Accumulated radiation dose varied from 1500 to 5000 r. Methionine-S^{35} (I) was used as the indicator for the detn. of the rate of protein synthesis. In different expts. I was injected intramuscularly at the rate of 0.2 μc./g. 45 min. and 24, 48, and 72 hrs. after radiation of animal body. Non-irradiated controls were similarly injected with I. The rate at which the concn. of S^{35} changes at any given moment after the injection of the indicator into the organism is represented by the difference between the rate of the inclusion of the labeled atoms into the protein (V_1) and the rate of the outgoing labeled atoms (V_2), or $dX/dt = V_1 - V_2$ (1), where dX = change in the protein radioactivity in the shortest interval of time, dt. Hence $V_1 = (n_1/N_1)C_1$ (2), where C_1 = coeff. of proportionality characteristic of the rate of protein synthesis in its broadest sense; n_1 = no. of S^{35} atoms in a unit vol. of the acid-sol. fraction, and N_1 = the total no. of S^{35} atoms in it. Thus, n_1/N_1 = the specific radioactivity of S^{35} in the acid-sol. fraction of the tumor tissue, which remains practically const. in the interval of 20–60 min. after the injection of the indicator into the organism. The rate of the loss in radioactive atoms which go into the formation of other compds. (the metabolic processes of which depend upon proteins) is detd. by the specific radioactivity of the latter. This holds true even in the case when the passing out of the radioactive atoms occurs in the process of the complete breakdown of the protein of the cancerous tumor. In this connection $V_2 = C_2(X/N_1)$ (3), where C_2 = coeff. of proportionality characteristic of

Dept. Exptl. Therapy, Cent. Sci. Res. Roentgeno-Radiol. Inst. Min. Health USSR

S.N. ALEKSANDROV

the rate of loss of labeled atoms, X/N_1 = the ratio of the concn. of the labeled atoms (X) to the concn. of the total S^{35} in the protein. On substituting V_1 and V_2 in (1), $dX/dt = C_1(n_1/N) - C_2(X/N_2)$ (4) in which C_1 and C_2 are unknown. In order to det. C_1 in (4) X is let approach 0 and in that equation integrated to $X = C_1(n_1/N_1)t$ (5), in which the integration const. is 0, since $t = 0$ and $X = 0$. Thus, (5) represents a straight line. The magnitude of the specific radioactivity of the tumor proteins which defines the rate of the process of synthesis was detd. in the midsection of the straight line, i.e., 45 min. after the injection of the indicator into the organism. The rate of protein synthesis was reduced by Röntgen ray radiation. The degree of reduction in the rate of protein synthesis depends upon the radiation dose, the time elapsed after the radiation, the radiation set-up, the type of tumor, and the sensitivity of the tumor cells to radiation.

– D. S. Levine

2/2

ALEKSANDROV, S.N.

2972. Change of rate of uptake of isotopic indicator by organ proteins of irradiated animals. I. Rate of uptake of indicators into proteins of brain, kidney, liver, and spleen in acute radiation disease. S. N. Alexandrov *Dokl. Akad. Nauk, S.S.S.R.*, 1956, 108, 153—156; *Referat. Zh. biol. Khim.*, 1956, Abstr. No. 14861.—Mice were irradiated at a dose of 1500 R which led to death on the 3rd or 4th day. 24, 48 and 72 hr. after irradiation [^{35}S]methionine was injected i.m. (0·25 μc per g. body wt). At various times after the injection the organs were taken out and extracted with TCA, and the radioactivity of the protein ppt. and the protein-free extract was measured. During the first 3 days of the irradiation disease no changes were seen; on the 4th day there was a spreading of increased activity, as compared with controls. The relative sp. activity (ratio of sp. activity of protein ppt. to that of the protein-free extract) is increased during the whole course of the irradiation disease in the liver, but lasts only 48 hr. in kidney and brain, after which it falls below the control value. In spleen and thyroid gland the relative sp. activity of the proteins is lower than in the controls throughout the whole duration of the disease. (Russian)

T. R. Parsons

ALEKSANDROV, S. N.

8922. Changes in the rate of incorporation of labelled material into the intracellular proteins in irradiated animals. Rate of incorporation into protein in the subacute form of radiation sickness. [S. N. Aleksandrov. *Dokl. Akad. Nauk, S.S.S.R.*, 1956, 108, 383—386; *Referat. Zh. biol. Khim.*, 1956, Abstr No. 17588.—1—20 Days after irradiation, (500 R), mice were injected with [^{35}S]methionine [I] and killed after 1½ hr. The extent to which I was incorporated in the organ proteins served as an index of synthesis for the latter. Incorporation of I in liver protein was higher than normal at all times after irradiation. Incorporation in the spleen was markedly reduced in the first 8—10 days, thereafter increasing and exceeding the normal level considerably. Alternating periods of increased and reduced incorporation (relative to the normal) of I were observed in the proteins of kidney and brain. (Russian)

J. E. S. BRADLEY.

ALEKSANDROV, S. N.

Alteration of the rate of inclusion of indicator into proteins of organs of irradiated animals. Rate of inclusion of indicator into proteins upon irradiation of the head at 4500-r. dose. S. N. Aleksandrov. *Doklady Akad. Nauk S.S.S.R.* 105, 569–72(1956); cf. *C.A.* 50, 8890g.—Irradiation of heads of mice at 90 r./min. for a total of 4500 r. of x-radiation, with intramuscular injection of S^{35}-labeled methionine either immediately after irradiation or 1–7 days later, followed by examn. of the tissues after 1.5 hrs. gave the following results: The protein renewal in the spleen, liver, and kidney is retarded. The results show a high degree of variability over the 0–7-day period (shown graphically). The renewal rate in the brain is always below normal while that in the liver shows maxima above normal at 1 and 6–7 days. The leucocyte count declines steadily in peripheral blood; the spleen shows an increase in weight in 2–3 days, then a sharp decrease.

G. M. Kosolapoff

ALEKSANDROV, S. N., Doc Biolog Sci--(diss) "The role of the regulatory systems of the organism in the X-ray therapy of malignant neoformations." (Experimental research) Leningrad, 1957, 29 pp, (Min Pub Health USSR. Central Sci-Res Inst of X-ray radiology), 160 copies. (KL, No 40, 1957, p.91)

EXCERPTA MEDICA Sec 14 Vol 13/10 Radiology Oct 59

1924. SOME FORMS OF PARTICIPATION OF THE BODY'S REGULATORY SYSTEMS IN THE PROCESS OF RADIATION THERAPY OF MALIGNANT NEOPLASMS (EXPERIMENTAL INVESTIGATION) (Russian text) - Aleksandrov S. N. Roentg.-Radiol. Inst., Leningrad - THESIS (Leningrad) 1957 (29 pages)

A study was made of the role of the body's regulatory systems in the changes occurring in tumour cells on irradiation. In the first part of the work the in-vitro radiosensitivity of spontaneous and transplanted carcinomata of the breast and of 3 strains of transplanted mouse sarcomata was compared with the radiosensitivity of homologous normal tissues. The following tests were used: threshold of the denaturing action on protoplasm (vital staining with neutral red) and escape of nucleic acids from the cell. It was found that tumour cells outside the body were no more

sensitive than the normal elements of identical tissue groups and that enhanced sensitivity only occurred in vivo. Conditions determining the various radiosensitivity of tumour cells in vitro were studied on the ascitic and subcutaneous variants of the Ehrlich tumour and the mouse acridine sarcoma. Inhibition of tumour growth and of protein synthesis in the tumour (S^{35}-labelled methionine) served as tests. It was shown that the different reaction of different tumours to irradiation depended on specific properties of tumour cells and that the sensitivity of a given tumour in vitro was determined by the physiological condition of the cells at the moment of irradiation and the environmental conditions following irradiation. The second part of the work is devoted to a study of the role of the regulatory, protective-adaptive systems of the organism in realizing the direct and the indirect general action of radiation energy. Cells of the ascitic variant proved to be less damaged by direct action than cells of the s.c. variant; this is connected with the presence of innervation in the latter since tumours of a denervated limb are more radio-resistant. In addition, it was found that anaesthesia reduced the effect of direct tumour irradiation and that this depended solely on inhibition of central nervous system function and not on any other experimental conditions. The effect of direct radiation energy was also diminished on bilateral adrenalectomy. The anti-tumour effect of radiation is thus realized with the participation of neurotropic action on the tumour which depends on the state of the nervous system and the humoral background. It was shown that the antiblastomatous effect of the indirect general action of irradiation was likewise connected with the state of the nervous system, chiefly the sympathetic nervous system, participating in protective-adaptive reactions. The intensity of these reactions was also determined by the constitutional properties of the organism and the nature of the irradiation. Comparison of the roles of direct and indirect effect on the tumour revealed that the former is of predominant significance but that both are, in vivo, interconnected. Analysis of all the experimental and extensive bibliographic material showed that the protective-adaptive mechanisms of the body exert counter-directional effects on tumour and normal cells thus determining the enhanced sensitivity of the former in vivo.

Konoplev - Moscow (S)

USSR / General Problems of Pathology. Tumors. Nervous System. U

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102560.

Author : Aleksandrov, S. N.
Inst : Not given.
Title : The Lowering of the Radiosensitivity of Denervated Tumor Elements.

Orig Pub: Neoplasma, 1957, 4, No 2, 137-145.

Abstract: 0.2 ml of ascitic fluid (AF) of ascitic carcinoma of Ehrlich was inocculated to each mouse intraperitoneally or into the hip muscles. In proportion to the growth of the tumor, the animals were subjected to general Roentgen irradiation under 190 kv, 15 ma, 66 4/min, total 1500-5000 r; after 45 min.-72 hrs 0.2 m curie each per 1 g of weight of

Card 1/3

USSR / General Problems of Pathology. Tumors. Nervous System. U

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102560.

Abstract: marked methionine was introduced to them and they were sacrificed after 45 min. A slowing down of the protein synthesis in intraperitoneal inoculation was noted from 5000 r, in intramuscular - from 2500 r, i.e., solid tumors were characterized by higher radiosensitivity (R) than the cells of AF. In irradiation of cells of one or the other tumor in vitro a difference in R were not noted. 0.3 ml of AF was introduced to mice in the hind extremity; after 13-15 days the extremity was denervated (dissection of sciatic nerve and V-VII lumbar nerve); 1 hour after surgery general irradiation with 2500 r was performed, and the animals were killed at once. A suspension of the cells of denervated and undenervated tumors was injected into mice. In

Card 2/3

USSR / General Problems of Pathology. Tumors. Nervous System. U

Abs Jour: Ref Zhur-Biol., No 22, 1958, 102560.

Abstract: denervation, growth of the tumor was noted on the 12th, without denervation on the 18th day. In other experiments, the extremity was denervated after irradiation with 2500 r. A difference in tumor growth was not noted. Consequently, the change of R after denervation takes place not by the reflex path, but in connection with rebuilding of metabolism, induced by denervation. Apparently the decrease of R of ascitic elements deprived of neurotrophic influences is connected with these changes of metabolism. -- K. P. Markuze.

Card 3/3

ALEKSANDROV, S.N.

Dependence of results of radiotherapy on the central nervous system. Neoplasma, Bratisl. 4 no.2:146-153 1957.

1. Iz Tsentral'nogo Nauchno-Issledovatel'skogo Rentgeno-Radiologicheskogo in-ta MZ SSSR. Adress avtora: Leningrad, Baskov per 13-15 kv 7, SSSR.

(RADIOTHERAPY, in var dis.
eff. of CNS on results in cancer (Rus))
(CENTRAL NERVOUS SYSTEM, physiol.
eff. on results of radiother. of cancer (Rus))

USSR/Human and Animal Physiology. Action of Physical Agents. T

Abs Jour: Ref Zhur-Biol., No 8, 1958, 37008.

Author : Aleksandrov, S.N., Galkovskaya, K.T.
Inst :
Title : On the Relation Between the General Resistance and Resistance to Radiation in Animals.

Orig Pub: Zh. obshch. biologii,1957, 18, No 1, 47-52.

Abstract: Radioresistance of mice of the strain C57 (black) and strain A were compared following a single exposure to x-rays. Mice of strain C57 were more resistant in a wide range of radiation doses. In all the variants of the experiment (administration of strychinine, inspiration of diethylether, grafting of Ehrlich's ascitic cancer) following removal of the adrenals the differences in the radioresistance be-

Card : 1/2

ALEKSANDROV, S.N.

"On the Relationship of General Resistance and Radioresistance in Animals," by S. N. Aleksandrov and K. F. Galkovskaya, Laboratory of Experimental Therapy and Experimental Morphology, Scientific Research Roentgeno-Radiological Institute, Ministry of Health USSR, Zhurnal Obshchey Biologii, Vol 28, No 1, Jan/Feb 57, pp 47-52

A detailed comparison of the radioresistance of mice of two different strains (S_{57} and A) to identical X-irradiation was made. This was done to clarify the nature of the natural protective mechanisms which provide the biological resistance of organisms to the action of ionizing radiation.

Mice of the S_{57} strain have been found to be more resistant to the action of a variety of harmful agents, surgical trauma, etc.

The greater radioresistance of the S_{57} mice was due to their high general resistance and was dependent chiefly on the activity of the adrenal system. Extirpation of the adrenals in mice of both strains brought about a leveling of any difference in their resistance to radiation. (U)

54M-1374

AUTHOR ALEKSANDROV, S.N. PA - 2655

TITLE On the dependence of the X-ray therapeutic effect upon the general resistance of animals carrying malignant neoplasms. (Ozavisimosti rentgenoterapevtisheskogo effekta ot obshchey ustoychivosti zhivotnykh-nositeley zlokachestvennykh novoobrazovaniy. Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 1, pp 90 - 93 (U.S.S.R.)

Received 5/1957 Reviewed 6/1957

ABSTRACT Formerly it was shown that mice of two different genetical lines (black mice C_{57} and A) differ considerably with respect to their power of resistance against different reactions (ionizing radiations, strychnine, diethyl ether, chirurgical traumata, etc.). These differences exist also in the case of animals with EHRLICH carcinoma. Therefore the author investigates the dependence of the effect produced by radiation on the growth on the general power of resistance of the animals inflicted with growth.

The excitation of growths by injection of ascites into femoral muscles of the mice of group C_{57} and A is described. These growths increased considerably and were then subjected to a local X-ray irradiation. Two days after irradiation the mice were killed, the growths emptied and the preparation obtained was carefully

Card 1/2

On the dependence of the X-ray therapeutic effect upon the general resistance of animals carrying malignant neoplasms. PA - 2655

investigated.
The effect of irradiation on the growthdepends upon the general power of resistance and especiallyon the power of radiation resistance of the animals inflicted with new growths. The influence of the protective reactions of the organism exercised on the occasion of radiation is inverse in the case of normal and in the case of growth tissues.
(4 ill.)

ASSOCIATION Central Roentgenological-Radiological Scientific Research Institute Leningrad
PRESENTED BY L.A.ORBELI, Member of the Academy
SUBMITTED 17.10.1956
AVAILABLE Library of Congress
Card 2/2

ALEKSANDROV, S.N.

930. *The neurohormonal mechanism of an indirect effect of radiation upon tumour cells (Russian text)* ALEXANDROV S. N. *Doklady Akad. Nauk SSSR* 1957, 113/2 (311–314) Tables 6

A description is given of experiments performed in mice with a view to analysing the mechanism of the indirect influence of medical ionization of tumour cells, in particular of those occurring in the brain. Irradiation of the brain apparently stimulates the higher departments of the sympathetic nervous system which gives rise to reflex

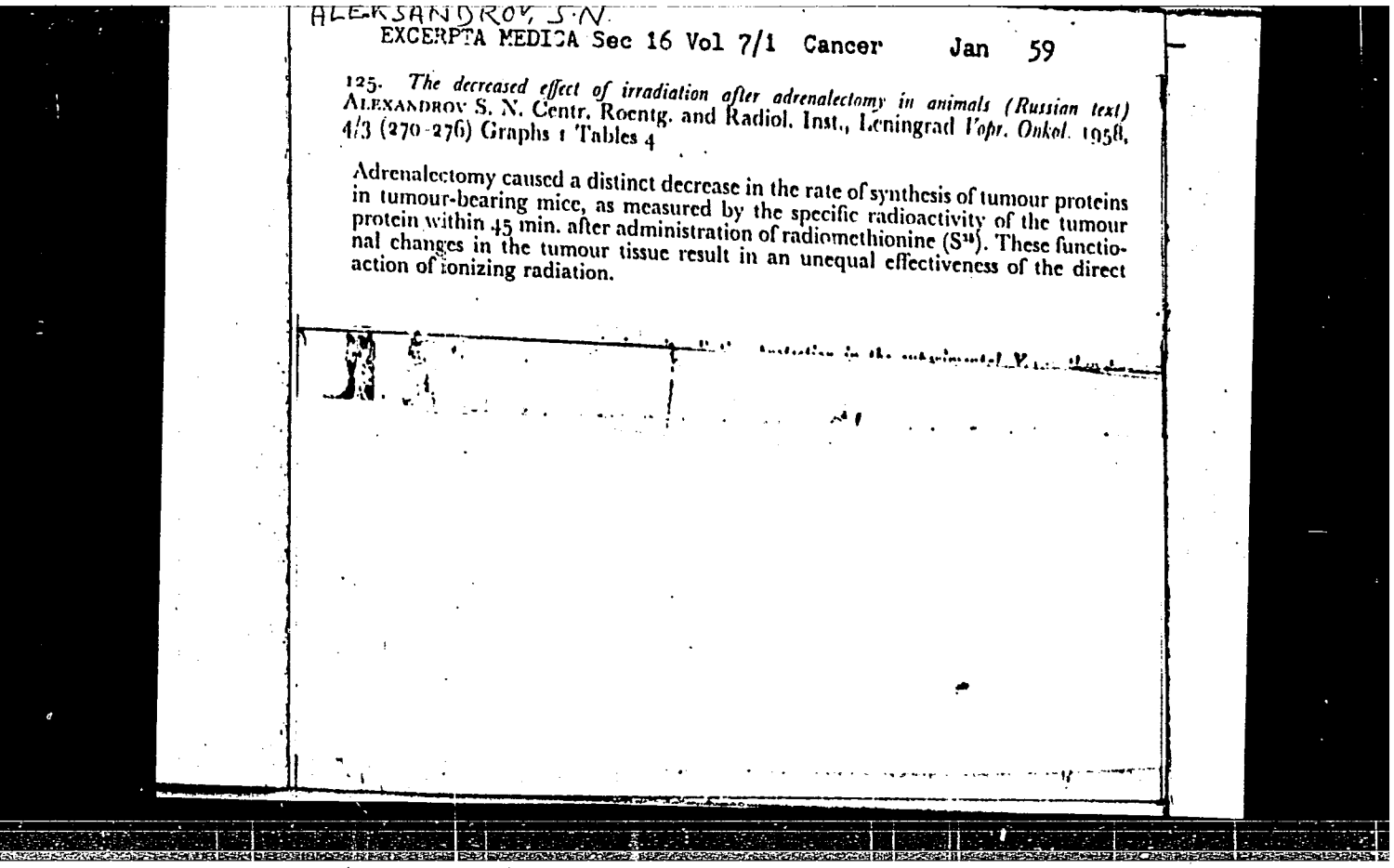
stimulation of the cerebral cortex via the adrenals, responding to the secretion of adrenaline. Mitotic activity of malignant cells is inhibited by the latter substance.

Boerman – Oss

ALEKSANDROV, S.N.; GALKOVSKAYA, K.F.; MATVEYEV, O.G.; PETROV, V.A.

Biological effect of external beta radiations. Med.rad. 3 no.4:. 6-8 Jl-Ag '58. (MIRA 12:3)

1. Iz Tsentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR.
(STRONTIUM, radioactive,
eff. in white mice, external application (Rus))



ALEKSANDROV, S.N.

EXCERPTA MEDICA Sec 16 Vol 7/1 Cancer Jan 59

125. *The decreased effect of irradiation after adrenalectomy in animals (Russian text)* ALEXANDROV S. N. Centr. Roentg. and Radiol. Inst., Leningrad *Vopr. Onkol.* 1958, 4/3 (270-276) Graphs 1 Tables 4

Adrenalectomy caused a distinct decrease in the rate of synthesis of tumour proteins in tumour-bearing mice, as measured by the specific radioactivity of the tumour protein within 45 min. after administration of radiomethionine (S^{35}). These functional changes in the tumour tissue result in an unequal effectiveness of the direct action of ionizing radiation.

ALEKSANDROV, Samuil Naumovich

[Regulatory systems of the body during radiotherapy for tumors] Regulistornye sistemy organizma v protsesse luchevoi terapii opukholei. Kiev, Gosmedizdat USSR, 1959. 194 p.

(MIRA 13:9)

(TUMORS) (RADIOTHERAPY)

ALEKSANDROV, S.N.; BUKHMAN, M.P.

Spectrographic study of the effect of radiant energy on the ultraviolet absorption spectra of crystalline proteins and amino acids. Biofizika 4 no. 6:720-725 '59. (MIRA 14:4)

1. TSentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut Ministerstva zdravookhraneniya SSSR, Leningrad.
(RADIATION--PHYSIOLOGICAL EFFECT) (PROTEINS--SPECTRA)
(AMINO ACIDS--SPECTRA)

ALEKSANDROV, S.N.; GALKOVSKAYA, K.F.

On changes in the radioresistance of the irradiated organism. Med. rad. 4 no.11:15-19 N '59. (MIRA 13:2)

1. Iz TSentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR eksperimental'no-rakovogo otdela (zaveduyushchiy S.N. Aleksandrov) i laboratorii eksperimental'noy morfologii (zaveduyushchiy - prof. G.S. Strelin).
(RADIATION EFFECTS experimental)

ALEKSANDROV, S.N.; GALKOVSKAYA, K.F.; LOZINA-LOZINSKIY, L.K.

Heat resistance of the isolated tissues and body of lake frogs found in hot spring waters at Zheleznovodsk. TSitologiia 2 no.4:442-447 Jl-Ag '60. (MIRA 13:9)

1. Otdel otdalennoy luchevoy patologii TSentral'nogo nauchno-issledovatel'skogo instituta meditsinskoy radiologii i Laboratoriya kletochnykh adaptatsiy Instituta tsitologii AN SSSR, Leningrad.
(HEAT--PHYSIOLOGICAL EFFECT) (TISSUES)

ALEKSANDROV, S. N. (USSR)

"The biological characteristics of the tumouous cells as the basis of radiation therapy."

report submitted for the European Conference on Tumor Biology (VICC),
Warsaw, Poland
22-27 May 1961

Aleksandrov, S. N.-Baskov per. 13/15 Kw. 7, Leningrad

ALEKSANDROV, S. N.; GALKOVSKAYA, K. F.

Sexual differences in radiosensitivity. Radiobiologiia 2 no.3: 401-405 '62. (MIRA 15:7)

1. TSentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii, Leningrad.

(GAMMA RAYS—PHYSIOLOGICAL EFFECT)
(SEX(BIOLOGY))

S/020/62/146/005/010/011
B144/B186

27.2400

AUTHORS: Aleksandrov, S. N., Galkovskaya, K. F.

TITLE: Frequency of lymphosarcoma formation in mice exposed to single and multiple irradiations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 146, no. 5, 1962, 1189-1192

TEXT: Male and female mice were whole-body irradiated with Co^{60} in groups from 129 to 1035, either with a single dose of 800 r or with 4 doses of 200 r each at intervals of 7 or 30 days. The frequency of tumor formation was calculated from 2 formulas: 1) $K_2 = A/(N - N_1)$; 2) $K_3 = A\tau_m/(N - N_1)C$, where A is the number of individuals afflicted with lymphosarcoma (LS) of the thymus, N is the number of mice irradiated, N_1 is the number of mice dying from irradiation effects within the latent period of LS formation, τ_m is the mean duration of the latent period, and C is the mean life in the cancerogenic period. No LS were found in the controls. The sex of the irradiated mice had a distinct influence on the

Card 1/3

S/020/62/146/005/010/011
B144/B186

Frequency of lymphosarcoma...

LS formation frequency. The male-to-female K_2 ratio is 3:1 after single irradiation, 1:3 after 4×200 r with 7-day intervals [redacted]. In males, K_2 as well as K_3 decreased with increasing irradiation intervals; in females, they increased with 4×200 r and 7-day intervals as compared to the single exposure, but only K_3 continued to increase with 30-day intervals. This behavior of K_2 and K_3 proves that the variations in LS formation frequency cannot be due to the effect of different irradiation conditions on the animals' lifetime. The inconsistencies in the LS susceptibility of the two sexes are explained by the predominance of an indirect radiation effect on the gonades which inhibits the production of hormons. Since this effect decreases with increasing irradiation intervals, androgen inhibition becomes stronger in males and oestrogen stimulation of LS formation stronger in females. These results contradict the idea that females are throughout more susceptible to irradiation-induced LS formation than males. The duration of the latent period is independent of the LS formation frequency. There is 1 table.

Card 2/3

S/020/62/146/005/010/011
B144/B166

Frequency of lymphosarcoma...

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii (Central Scientific Research Institute of Medical Radiology)

PRESENTED: March 26, 1962, by N. N. Anichkov, Academician

SUBMITTED: December 11, 1961

Card 3/3

S/020/63/149/001/022/023
B144/B186

AUTHORS: Aleksandrov, S. N., Galkovskaya, K. F.

TITLE: Frequency of leucoses induced by single and fractionated irradiations

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 1, 1963, 194-197

TEXT: The interrelation between leucosis frequency and irradiation conditions was studied in mice which were Co^{60} irradiated with 800 r either in a single dose or in 4 doses of 200 r each at intervals of 7 or 30 days. Histological studies after natural death included: thymus, lungs, liver, kidneys, suprarenal glands, bone and bone marrow, spleen lymph nodes, ovary, uterus, etc. The ratio between myeloid and lymphoid forms of leucosis (86 : 14) equalled that of radiation-induced leucosis in man. The frequency factors were calculated from equations published previously (DAN, 146, no. 5 (1962)). The high leucosis rate found in male mice is consistent with the predominant occurrence of myeloid forms in males, which is typical of radiation-induced leucoses in animals as well as in man. The percentage of lymphadenosis was similar in all groups with the exception of

Card 1/3

Frequency of leucoses induced by ...

females subjected to fractionated irradiation at 7-day intervals, where it increased to 35%. At 30-day intervals the leucosis rate increased sharply in both sexes, owing to an increase in myeloid forms. The two explanations offered are: a) The second and further irradiations affect the bone marrow in the state of myeloid hyperplasia, which is perhaps more susceptible to leucose-producing changes; b) these changes are caused at equal rates, but other disturbances, part of which inhibit the development from preleucotic to leucotic states, are less serious in irradiation at 30-day intervals so that the frequency of leucoses increases. Also a and b might be combined. Shortening of the latent period was observed in male mice only. These results show the danger of irradiations repeated at long intervals as regards malignant affections of the white blood corpuscles. There are 2 tables.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR (Central Scientific Research Institute of Medical Radiology of the Ministry of Public Health USSR)

PRESENTED: March 26, 1962, by N. N. Anichkov, Academician

S/020/63/149/001/022/023
B144/B186

Frequency of leucoses induced by ...

SUBMITTED: March 19, 1962

Card 3/3

L 10829-63 EWT(m)/BDS/ES(b)--AFFTC/ASD--RM/K

ACCESSION NR: AP3000756 S/0020/63/150/003/0665/0667

56
55

AUTHOR: Aleksandrov, S. N.; Galkovskaya, K. F.

TITLE: Comparative evaluation of the protective effect of Beta-mercaptoethylamine hydrochloride during single and fractionated irradiation

SOURCE: AN SSSR. Doklady, v. 150, no. 3, 1963, 665-667

TOPIC TAGS: Beta-mercaptoethylamine hydrochloride, fractionated irradiation

ABSTRACT: This is a continuation of a previous study (Sborn. tez. dokl. na nauchn. konf. Tsentr. nauchno-issledovatel'skiy inst. med. radiol. po probleme: Patogenez, klinika terapiya i profilaktika luchevoy bolezni, Leningrad, 1957, page 77) where the authors performed comparison analyses of the protective effect of Beta-mercaptoethylamine hydrochloride during a single and fractionated radiation of animals. In these earlier experiments the authors discovered that Beta-mercaptoethylamine hydrochloride reduces the death rate of animals twofold during single radiation effect. At the same time, this hydrochloride turned out to be not only ineffective during fractionated radiation, but it even increased the death rate of mice. The authors concluded that the hydrochloride preparation which they used in specified doses had a toxic effect when used repeatedly. This theory was

Card 1/2

L 10829-63
ACCESSION NR: AP3000756

tested in these experiments. Authors established that the introduction of Beta-mercaptoethylamine hydrochloride does not prolong the life of radiation-diseased mice in both the single and fractionated radiations. These results are in complete agreement with the results obtained by other authors. Orig. art. has: 2 tables.

ASSOCIATION: Tsentral'ny*y nauchno-issledovatel'skiy institut meditsinskoy radiologii (Central Scientific Research Institute for Medical Radiology)

SUBMITTED: 07Dec62	DATE ACQD: 21Jun63	ENCL: 00
SUB CODE: 00	NO REF SOV: 002	OTHER: 003

ch/cw

Card 2/2

ALEKSANDROV, S.N.; GALKOVSKAYA, K.F.

Reduction in the protective effectiveness of crysteamine during repeated exposure to radiation. Dokl. AN SSSR 152 no.1:215-217 S '63. (MIRA 16:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii. Predstavleno akademikom N.N.Anichkovym.
(Ethanethiol) (Radiation--Protective agents)

ALEKSANDROV, S.N.

Pathogenesis of remote aftereffects of irradiation. Radiobiologiia 5 no.1:61-67 '65. (MIRA 18:3)

1. TSentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut Ministerstva zdravookhraneniya SSSR, Leningrad.

ALEKSANDROV, S.N.; KONONENKO, A.M.

Dynamics and kinetics of cell population of the intestinal epithelium. Biofizika 10 no.4:716-717 '65. (MIRA 18:8)

1. TSentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut Ministerstva zdravookhraneniya SSSR, Leningrad.

ALEKSANDROV, Samuil Naumovich; ROZENTAL', Dora L'vovna; TROSHIN, A.S., otv. red.

[Spreading of the lesion in somatic muscle fibers] Rasprostranenie povrezhdeniia v somaticheskikh myshechnykh voloknakh. Moskva, Nauka, 1965. 125 p. (MIRA 19:1)

L-14148-66 EWT(m)
ACC NR: AP6001309 SOURCE CODE: UR/0248/65/000/009/0011/0013

47
B

AUTHOR: Aleksandrov, S. N.

ORG: Central Scientific Research Institute of Roentgenology and Radiology, Ministry of Health SSSR, Leningrad (Tsentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut Ministerstva zdravookhraneniya SSSR)

TITLE: Pathogenesis of the aftereffects of radiation

SOURCE: AMN SSSR. Vestnik, no. 9, 1965, 11-13

TOPIC TAGS: ionizing radiation, pathogenesis, radiation effect, radiation injury

ABSTRACT: Direct ionizing radiation sets in motion a chain reaction consisting of four links. The first or primary link is the irreplaceable loss of certain cells, permanent changes in irradiated cells, and hereditary changes in somatic cells. These changes, which may persist even after disappearance of the clinical symptoms of acute radiation sickness, directly or indirectly give rise to a second link--secondary changes of a compensatory nature (e. g., hyperplasia of bone marrow). The primary and secondary disorders activate a third link--qualitative and quantitative

UDC: 616-001.28-06-092

Card 1/2

L 14148-66
ACC NR: AP6001309

impairment of reactivity of various systems. The result is the fourth pathogenetic link, limitation of the protective and adaptive capabilities of the body, manifested chiefly in heightened sensitivity to injurious agents and an unusual course of intercurrent diseases. This chain reaction initiated by permanent primary changes results in premature exhaustion of vital reserves and reduced life expectancy.

SUB CODE: 06/ SUBM DATE: 05Jun65/ ORIG REF: 000/ OTH REF: 000

Card 2/2

ALEKSANDROV, S.N.; EPSHTEYN, I.M.; SPESIVTSEVA, V.G.; KOROLEVA, O.F.; LIKHOVETSKAYA, L.L.

The 9th Congress of Roentgenologists of the German Democratic Republic held jointly with the Society of Biophysicists. Med. rad. 10 no.9:92-95 S '65. (MIRA 18:10)

ALEKSANDROV, S.N.; GALKOVSKAYA, K.F.; BAYDACHENKO-ROSTOVTSEVA, T.I.

Treatment of experimental radiation sickness with bone marrow and antibiotics. Vop. onk. 11 no.10:77-81 '65.

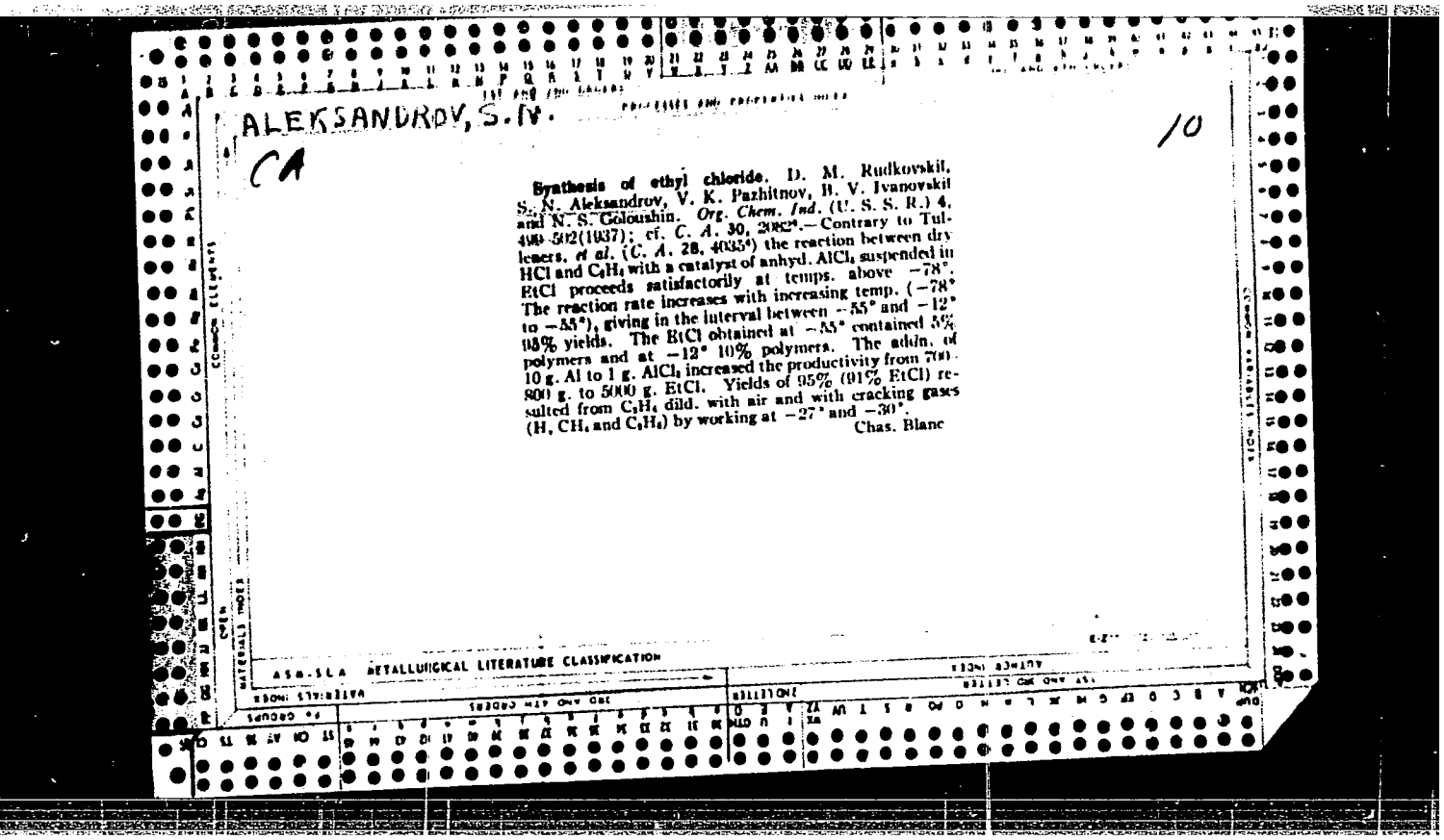
(MIRA 18:10)

1. Iz TSentral'nogo nauchno-issledovatel'skogo rentgeno-radiologicheskogo instituta Ministerstva zdravookhraneniya SSSR (direktor - Ye.I.Vorob'yev).

ALEKSANDROV, S.N.

Pathogenesis of late results of radiation. Vest. AMN SSSR 20 no.9:11-13 '65. (MIRA 18:11)

1. TSentral'nyy nauchno-issledovatel'skiy rentgeno-radiologicheskiy institut Ministerstva zdravookhraneniya SSSR, Leningrad.



ALEKSANDROV, S.N.

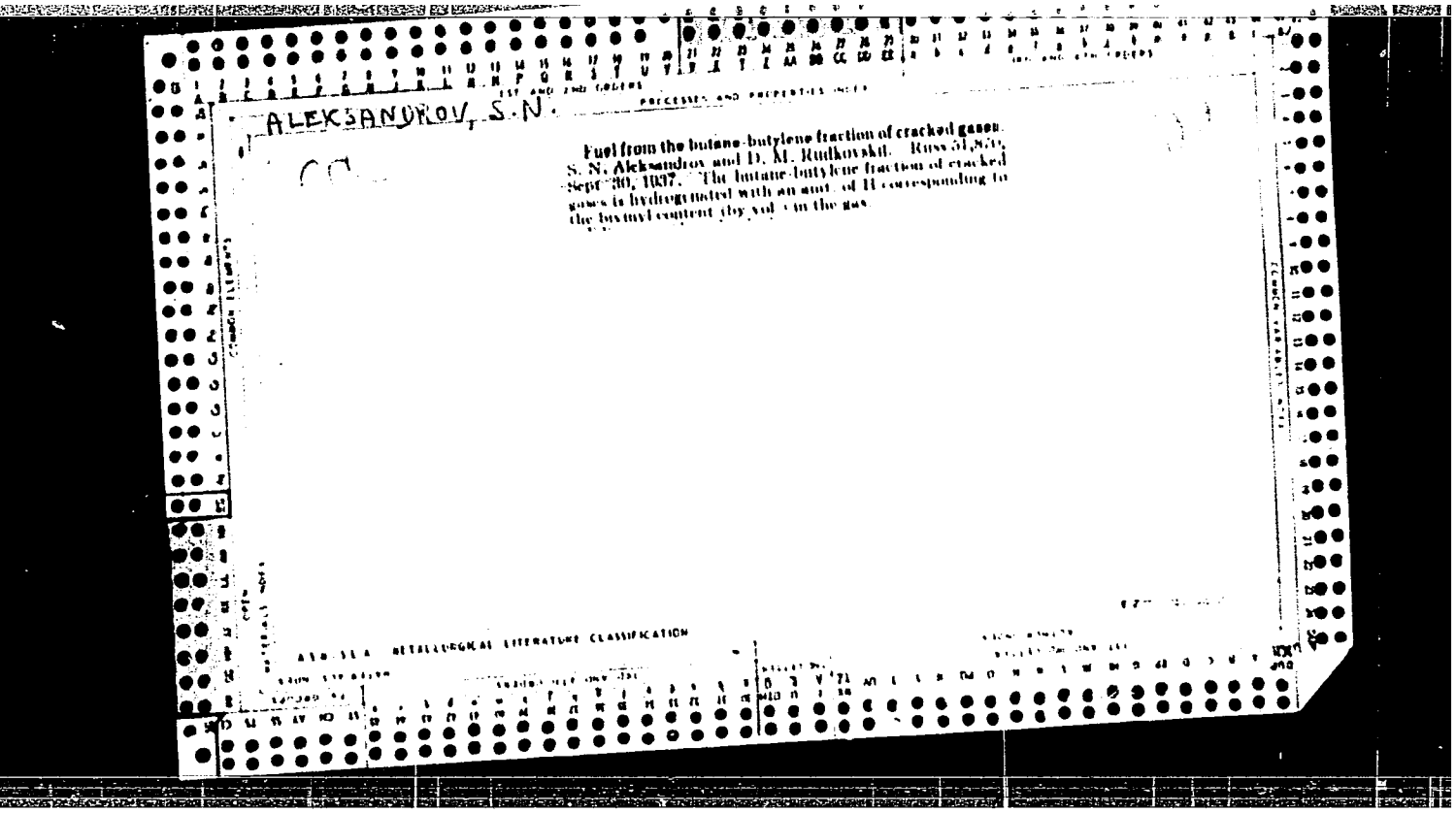
CA

10

Synthesis of ethyl chloride. D. M. Rudkovskii, S. N. Aleksandrov, V. K. Pazhitnov, B. V. Ivanovskii and N. S. Goloushin. *Org. Chem. Ind.* (U. S. S. R.) 4, 499–502(1937); cf. *C. A.* 30, 2082⁹.—Contrary to Tulleners, *et al.* (*C. A.* 28, 4035⁵) the reaction between dry HCl and C_2H_4 with a catalyst of anhyd. $AlCl_3$ suspended in EtCl proceeds satisfactorily at temps. above −78°. The reaction rate increases with increasing temp. (−78° to −55°), giving in the interval between −55° and −12° 98% yields. The EtCl obtained at −55° contained 5% polymers and at −12° 10% polymers. The addn. of 10 g. Al to 1 g. $AlCl_3$ increased the productivity from 700–800 g. to 5000 g. EtCl. Yields of 95% (91% EtCl) resulted from C_2H_4 dild. with air and with cracking gases (H, CH_4 and C_2H_6) by working at −27° and −30°.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



APPROVED FOR RELEASE: 06/05/2000 CIA-RDP86-00513R000100830008-1"

ALEKSANDROV, S. N.

Feb 1948

USSR/Electricity
Conduits, Electric
Hydroelectric Plants - Maintenance and Repairs

"A Case of Damage to a 154-kv Oil-Impregnated Conduit," S. N. Aleksandrov, Engr, ¼ p

"Elek Stants" No 2

Describes case of an oil-impregnated conduit, damaged during repairs which were being made on a type MKP-180 D oil cutout switch which had a defective porcelain cover. During tests it is necessary to keep tight control over power. Cutout switch installed at hydroelectric power station.

61T17

ALEKSANDROV, S. N. PA 20/49T11

USSR/Electricity Sep 48
Generators, Electric
Generators

"Repairs to the Cap of a 31,250-Kilowatt Generator," S. N. Aleksandrov, Engr, 1¼ pp

"Elek Stants" No 9

Describes damage and repair in detail. Includes three photographs.

20/49T11

ALEKSANDROV, S. N. (Engr)

"Breakdown of a 30-thousand KVA Generator," Elek. Stan., No. 5, 1949

ALEKSANDROV, S. N. (Engr.)

"Checking the Insulation of Pin Insulators with Megger," Elek. Stan., No. 10 , 1949

Polarographic determination of zinc in an iron base. S. Bogorad and S. N. Aleksandrov. *Zhur. Anal. Khim.* 6, 101-4(1951).—To det. Zn in the presence of Cu and Fe dissolve a 0.2–0.8-g. sample by heating in 80 ml. of H_2O and 2.5 ml. of HCl. When the temp. reaches 75–80° immerse an Al wire spiral of approx. 2 mm. in diam. After 5 min. Cu ppts. and after 15–20 min. Fe^{+++} is reduced to Fe^{++}. Test with KSCN, rinse the Al wire, transfer the soln. to a 100-ml. measuring flask, add 3 drops of methyl yellow, and add 1 *N* NH_4OH until the soln. is orange, and dil. to 100 ml. Transfer 9 ml. to the analyzer, pass H for 20 min., and det. Zn. Add 1 ml. of standard $ZnCl_2$ soln., pass H, and obtain a second curve from which the Zn content can be calcd.

M. Hoseh

ALEKSANDROV, S.N.

1/

7

Polarographic determination of formaldehyde in the presence of butyraldehyde. A. S. Bogorad and S. N. Aleksandrov (All-Union Sci. Research Inst. Khimgaz, Leningrad). *Zhur. Anal. Khim.* 6, 276–80(1951).—As auxiliary electrolytes LiOH or Me_4NI were used in concns. of 0.1–0.05 moles/l. EtOH was used as solvent for butyraldehyde. Gelatin was added to suppress the maxima. Unless the detn. was carried out immediately after combining the components, the wave of CH_2O decreased and with time a 3rd wave appeared. The 3rd curve was caused by the formation of an aldehyde alc. M. Hosch

Aleksandrov, S. N.

4

USSR.

Analysis of mixtures of organic compounds from the spectra of combination light dispersion (Raman spectrum analysis). Ya. B. Shmulyakovskii and S. N. Aleksandrov (C) (O). *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Khim. Pererabotki Gazov (KHIMGAZ)* 36, 6-35(1951).—A detailed description of the app. designed and constructed in Russia for Raman spectrum analysis. A photoelec. recorder of Raman spectra is being studied at present. Some detns. are discussed as an illustration of the results obtained. The method has been used to analyze different fractions of liquid fuels, to identify isomers which could not be detd. by other methods, to identify the bonding and branching of some compds., and to det. the purity of hydrocarbons. 22 references. W. M. Sternberg

BB

ALeKSANDrOV, S. N.

4

USSR

The frequency and intensity of lines in the Raman spectra. Yu. E. Simulyakovskii and S. N. Aleksandrov. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Khim. Pererabotki Gazov* (*KHIMGAZ*) 6, 35-71(1951).—A compilation of Raman spectra of 274 hydrocarbons (alkanes, alkenes, dienes, cycloalkanes, cyclohexane and homologs, cycloheptane and homologs, cycloalkenes, and aromatic hydrocarbons) is given, previously reported by Bazhulin, *et al.* (*C.A.* 42, 6238i) and Feuske (*C.A.* 42, 2180e). W. M. Sternberg

2

ALEKSANDROV, S.N.

5

USSR

Infrared spectrometer in analysis. S. N. Aleksandrov, V. I. Huchel, and S. A. Chistorazum. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Khim. Pererabotki Gazov (KHIM. GAZ)* 6, 72-100(1951).—An infrared spectrometer and methods for its use are described in detail. W. M. S.

2

BB

ALEKSANDROV, S.N.

BOGORAD, A.S.; ALEKSANDROV, S.N.

Polarographic determination of zinc with iron as basis. Trudy Inst."Khimgaz" no.6:109-114 '51. (MLRA 7:8)
(Polarograph and polarography) (Zinc)

ALEKSANDROV, S.N.

USSR.

Determination of aromatic hydrocarbons by the specific and relative refraction methods. S. N. Aleksandrov and E. L. Shirvneva. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Khim. Pererabotki Gazov (KHIMGAZ)* 6, 116-23 (1951).—Methods of analysis of liquid mixts. of aromatic hydrocarbons with alkanes or alkenes by the measurement of specific and relative refractions are illustrated, and the results obtained by the 2 methods are compared. Results obtained by either method with synthetic mixts. of aromatic hydrocarbons in concns. up to 35% by wt. differed by 0.3-1.5% from the truth. W. M. Sternberg

CH

USSR/Chemistry - Liquid Fuels 21 Feb 52

"The Raman Spectrum of 3, 4, 4-Trimethylpentene-2," Ya. E. Shmylyakovskiy, C. N. Aleksandrov, Leningrad Sci Res Inst of Petroleum Conversion and Production of Synthetic Liquid Fuels

"Dok Ak Nauk SSSR" Vol LXXXII, No 6, pp 931-933

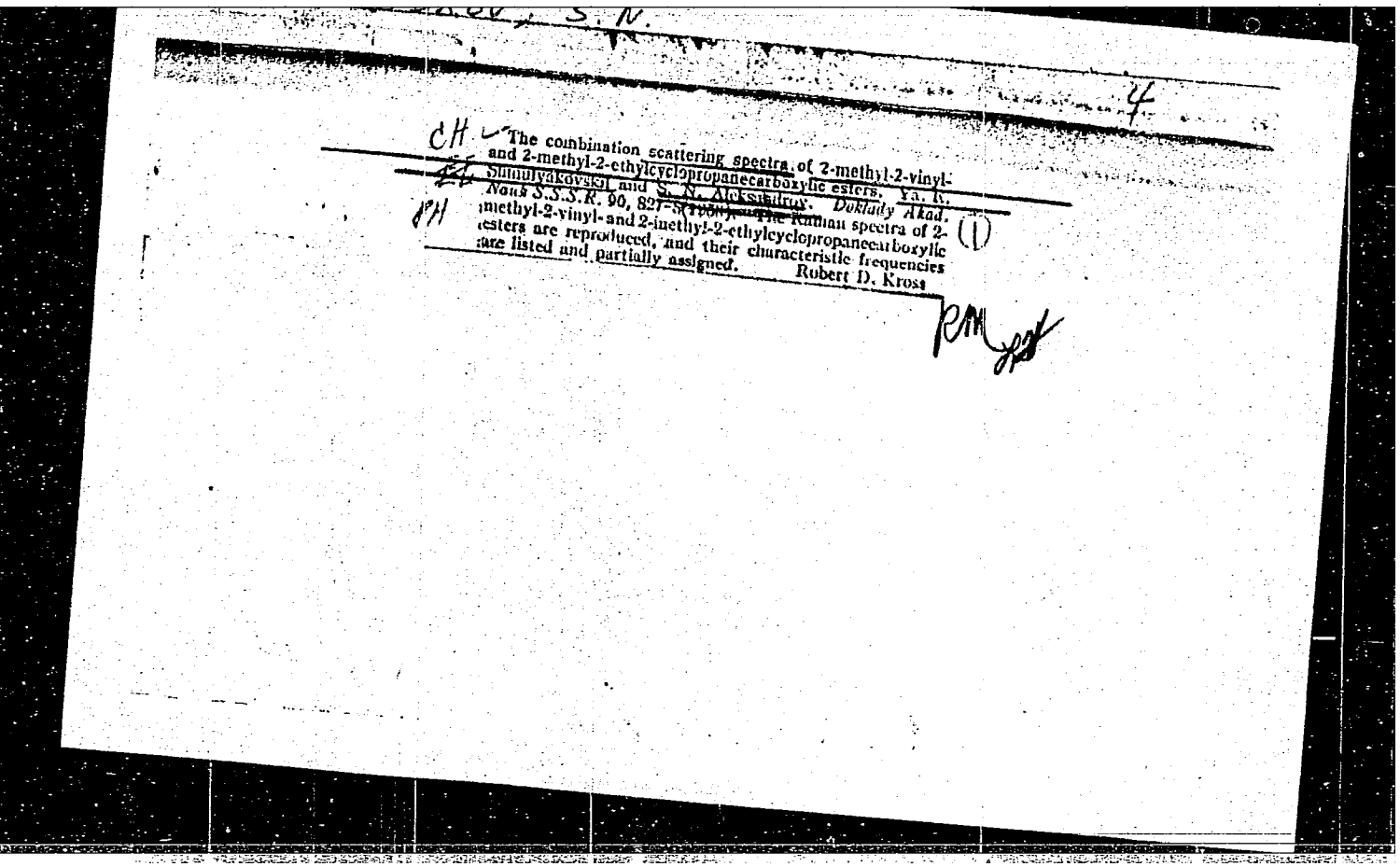
Data on Raman spectra of many alkenes are still absent from the literature. In this work the authors measure the Raman spectrum lines of 3, 4, 4-trimethylpentene-2, a product of hydrocarbon conversion and synthesis. Detailed information is given on the equipment, method used, and manner

214T24

of calg the tabulated Raman values. 3, 4, 4-Trimethylpentene-2 was hydrogenated into 2, 2, 3-trimethylpentane, whose spectrum was measured.

214T24

ALEKSANDROV, S. N.



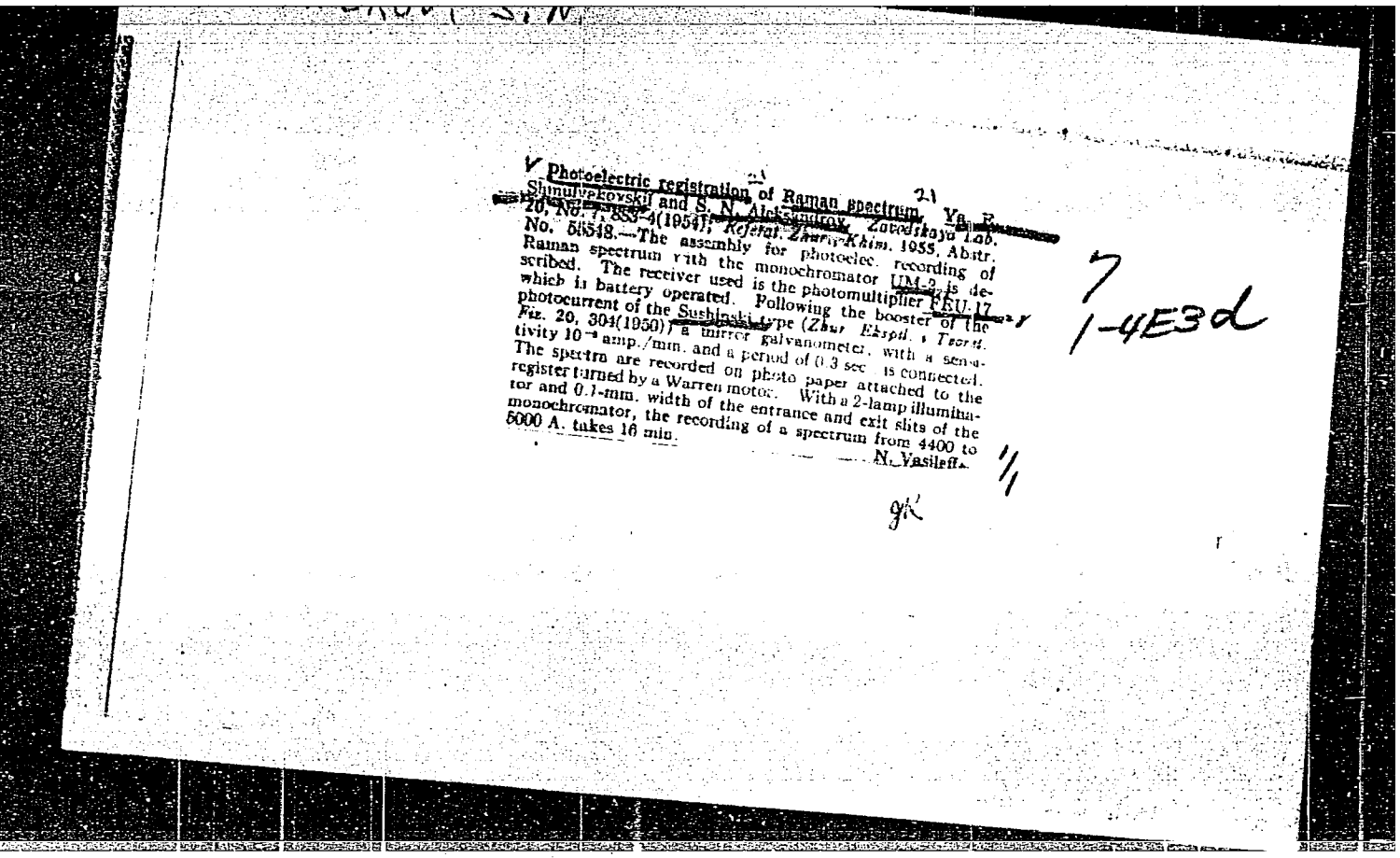
CH

The combination scattering spectra of 2-methyl-2-vinyl- and 2-methyl-2-ethylcyclopropanecarboxylic esters. Ya. K. Syrkin, M. V. Volkenshtein, and S. N. Aleksandrov. *Doklady Akad. Nauk S.S.S.R.* 90, 821-3(1953). The Raman spectra of 2-methyl-2-vinyl- and 2-methyl-2-ethylcyclopropanecarboxylic esters are reproduced, and their characteristic frequencies are listed and partially assigned. Robert D. Kross

(1)

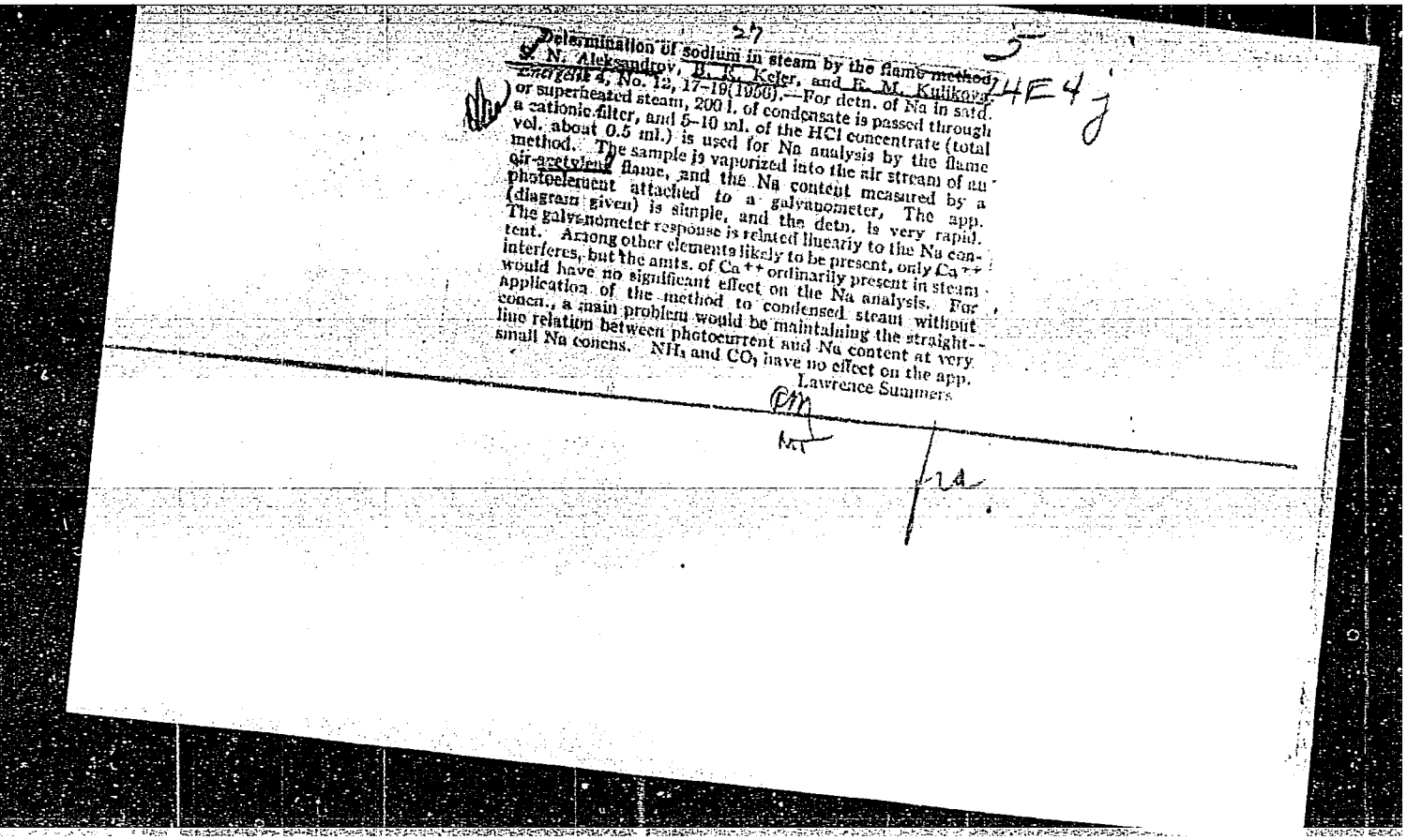
2833. **A spectral method for the determination of sodium in aluminosilicates.** S. N. Aleksandrov, G. P. Malakhova and Ya. E. Shmulyakovskii.
Neftyanoe Khoz., 1954, (12), 64–67; *Ref. Zhur. Khim.*, 1955, (17), Abstr. No. 37,490.—The sample
(0·05 to 0·25 per cent. of Na_2O), ground to a powder,
is mixed with $BaCO_3$ (1:3) to eliminate ejection of
the sample from the electrode and to ensure com-
plete vaporisation of the Na, and placed in a
cavity (about 2·5 mm × 2·5 mm) in the lower
angular electrode of the quartz spectrograph
ISP-22, with an a.c. arc generator PS-39 (7 to
8 amp.). The photographic conditions are—
width of slit, 0·015 mm; inter-electrode distance,
3 mm; height of diaphragm of three-lens condenser,
5 mm; and exposure, 40 sec.; the photographic
plates are spectral plates, type I. The line used for
analysis is Na 3302·3 Å, with the dense background
around this line as internal standard. On the same
plate are photographed the spectra of standards
prepared by the addition of known amounts of
Na_2CO_3 soln. to an aluminosilicate ignited at 750° C
for 2 hr., and freed from Na by boiling with 1 per
cent. HCl for 5 to 7 min. The Na_2O remaining
(0·05 per cent.) is determined by the method of
additions described earlier [Prokofiev: *Izvest. Akad.
Nauk SSSR, Ser. Fiz.*, 1954, **14** (5), 660]. The
concn. of Na_2O in the sample is determined by
comparison with three standards. The standard
deviation is ± 10 per cent. Zinc interferes.

C. D. Kopkin



V Photoelectric registration of Raman spectrum. Ya. F. Shimulyakovskii and S. N. Aleksandrov. *Zavodskaya Lab.* 20, No. 1, 883-4(1954); *Referat. Zhur., Khim.* 1955, Abstr. No. 55518.—The assembly for photoelec. recording of Raman spectrum with the monochromator UM-2 is described. The receiver used is the photomultiplier FEU-17 which is battery operated. Following the booster of the photocurrent of the Sushinski type (*Zhur. Eksptl. i Teoret. Fiz.* 20, 304(1950)) a mirror galvanometer, with a sensitivity 10^{-9} amp./mm. and a period of 0.3 sec. is connected. The spectra are recorded on photo paper attached to the register turned by a Warren motor. With a 2-lamp illuminator and 0.1-mm. width of the entrance and exit slits of the monochromator, the recording of a spectrum from 4400 to 5000 A. takes 10 min.

N. Vasileff.



27

Determination of sodium in steam by the flame method. N. Aleksandrov, B. K. Keler, and E. M. Kulikova. *Energetik* 4, No. 12, 17–19(1956).—For detn. of Na in satd. or superheated steam, 200 l. of condensate is passed through a cationic filter, and 5–10 ml. of the HCl concentrate (total vol. about 0.5 ml.) is used for Na analysis by the flame method. The sample is vaporized into the air stream of an air-acetylene flame, and the Na content measured by a photoelement attached to a galvanometer. The app. (diagram given) is simple, and the detn. is very rapid. The galvanometer response is related linearly to the Na content. Among other elements likely to be present, only Ca^{++} interferes, but the amts. of Ca^{++} ordinarily present in steam would have no significant effect on the Na analysis. For application of the method to condensed steam without concn., a main problem would be maintaining the straight-line relation between photocurrent and Na content at very small Na concns. NH_3 and CO_2 have no effect on the app.

Lawrence Summers

Determination of sodium and potassium in catalysts by a flame method. S. N. Aleksandrov, Ya. L. Shmulyakov-skii, and S. A. A[illegible] [illegible] No. 4, 68-72 — The flame [illegible] Tokhna 1956, for detg. elements that affect the activity of solid catalysts. [illegible] and accurate The catalyst is dissolved in an acid and the soln. is sprayed through a carefully regulated [illegible] glass app. The light [illegible] with a simple burner goes through [illegible] suitable ph[illegible] (C.D., Angstrom is used with a Se [illegible] doublet line 5890-5896 [illegible] to a [illegible] and 7699 A. and a [illegible] for K, the lines at for Ca the line at 6200 A. is used. At these wave lengths, the galvanometer deflections are directly proportional to the amt. of Na_2O and K_2O up to 0.005%; for CaO, the proportionality persists up to 0.4%. Corrections can be made for the influence of other elements on the intensities of these spectral lines. The error is not more than 5% for the range of 0-.005% of Na_2O or K_2O.

— [illegible] Gottschalk

USSR/Analytical Chemistry - Analysis of Inorganic Substances, G-2

Abst Journal: Referat Zhur - Khimiya, No 1, 1957, 1238

Author: Aleksandrov, S. N., Shmulyakovskiy, Ya. E., and Malakhova, G. P.

Institution: None

Title: Spectral Determination of Iron and Magnesium in Aluminum Silicates

Original Periodical: Khimiya i tekhnol. topliva, 1956, No 6, 55-57

Abstract: An analytical method has been developed for the concentration ranges 0.04-1% Fe_2O_3 and 0.1-1% MgO, using the pairs Fe 2585-Si 2532 and Mg 2776-Si 2532 Å. The powdered samples are mixed with $BaCO_3$ in the ratio 1:3, the latter acting as arc stabilizer, and inserted in the channel of a carbon electrode 2.5 mm in diameter and 2.5 mm deep. The spectra are excited with a 7 amps; an electrode gap of 3 mm and exposure of 60 seconds are used. A medium type ISP-22 spectrograph with a 0.015 mm slit is used. In preparing the calibration graphs, a plot of S vs log c is made. The analytical error is 10%. Standards are prepared by adding Fe and Mg compounds to freshly washed aluminum silicate, calcining, and grinding.

Card 1/1

ALEKSANDROV, S. N.

USSR/Analysis of Inorganic Substances. G-2

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19540.

Author : Ya. E. Shmulyakovskiy, S. N. Aleksandrov.
Inst : -
Title : Spectral Determination of Calcium in Alumosilicates.

Orig Pub: Khimiya i Tekhnol. Topliva, 1956, No 10, 70 - 72.

Abstract: The sample is mixed with $BaCO_3$ in the ratio of 1:3, pulverized and stamped into carbon electrodes with bowls 2.5 mm deep and 2.5 mm in diameter. The spectrum is excited in a a.c. or d.c. arc, the arc gap being 3 mm and the current being 18 a. The spectrum is photographed

Card 1/2

- 20 -

Determination of sulfur trioxide in alumina by amperometric titration. S. N. Aleksandrov
Khim. i Tekhnol

Print. If the first few

AUTHORS: Aleksandrov, S. N., Shmulyakovskiy, Ya. Ye. and Alekseyev, S.A. (Len. N.I.I.) 550

TITLE: An apparatus for the determination of aromatic hydrocarbons in petrol based on measurements of dielectric permeability. (Pribor dlya opredeleniya aromaticheskikh uglevodorodov v benzinakh metodom izmereniya dielektricheskoy pronitsayemosti).

PERIODICAL: "Khimiya i Tekhnologiya Topliva i Masel" (Chemistry and Technology of Fuels and Lubricants), 1957, No.2, pp. 60 - 63 (U.S.S.R.)

ABSTRACT: A description of the apparatus (including electrical circuit) is given. A comparison of the results obtained by sulphonation and dielectric permeability measurements indicated that agreement within 1% is obtained. There are 3 figures, 3 tables and 2 non-Russian references.

Card 1/1

AUTHOR ALEKSANDROV, S.N.,

TITLE On the Neurohormonal Mechanism of an indirekt Effect of Radiation upon tumor cells. 20-2.19/67
(O neyrogormonal'nom mekhanizme nepryamogo deystviya ioniziruyushchey radiatsii na opukholevyye kletki - Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 2, pp 311-314, (U.S.S.R.)

Received 6/1957 Reviewed 7/1957

ABSTRACT

Although the importance of the influence of radiation energy in the therapeutic of malignant neoplasms is generally acknowledged, its concrete forms are only insufficiently investigated. One of the most effective kinds is head irradiation. By means of this treatment it is possible to lower the susceptibility to experimental cancer. In a test ascitic liquid was brought into the abdominal cavity of mice. 6-8 days later abdominal cavity was filled with tumor elements suspended in the liquid. The author pictured the effect of this radiation to himself by the mitotic activity of these elements. While being irradiated the animals were held so that only their heads were exposed to the rays. Several times the ascitic liquid was taken out sterilely in intervals after the irradiation and it was used in smear preparations for counting the cells that were in the state of mitosis. A general scheme of the mechanism of ionizing radiation on the tumor can be projected based on the results: the irradiation of the brain leads to an ex-

Card 1/2

On the Neurohormonal Mechanism of an Indirect Effect of Radiation upon tumor cells. 20-2-19/67

citation of higher sections of the sympathetic nervous system. By this a reflex stimulation of the cerebral layer of the suprarenal capsules occurs, which reacts with adrenalin secretion. This hormone delays the mitotic activity of the tumor cells. A number of results concerning the tonus modification of the sympathetic nervous system when applying ionizing radiation lead to the assumption that this effect can also occur in the case of other localizations of the radiation influence. (6 schedules, 7 citations from publications).

ASSOCIATION Central Scientific Roentgen-Radiologic Research Institute, Leningrad.

PRESENTED BY ORBELI, L.A., Member of the Academy

SUBMITTED 11.10.1956.

AVAILABLE Library of Congress.

Card 2/2

AUTHORS: Aleksandrov, S. N; Shmulyakovskiy, Ya. E; Alekseyev, S. A. SOV/65-58-9-14/16

TITLE: The Spectral Method For Determining Vanadium and Nickel in Petroleum Products. (Spektral'nyy metod opredeleniya vanadiya i nikelya v nefteproduktakh)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 9, pp 69 - 71 (USSR)

ABSTRACT: This method consists in drying a slightly acid solution of the ash of petroleum products on electrodes; the surface of the latter is covered with a polystyrene coating to prevent penetration into the pores of the electrodes (Ref.1). The spectrum of the dry residue is recorded on the spectrograph ISP-22. The samples of the petroleum products are prepared by separating the mineral part of the petroleum product containing metals, and by sulphonating the ash; the mineral part can be separated almost completely. The limiting concentrations of vanadium and nickel in the sample are 1×10^{-4} to 5×10^{-2}. The preparation of the required standards and of the electrodes is described. The electrodes are coated with polystyrene and three drops of the sample solution placed on them (approximately

Card 1/2

The Spectral Method for Determining Vanadium and Nickel in Petroleum Products. SOV/65-58-9-14/16

0.07 ml). After drying of the electrodes the concentration of the sulphuric acid in the solution increases. At higher temperatures H_2SO_4 partly dissolves the polystyrene layer and the weight of the dry residue is constant. V 3185,4 Å (V_ν - 3.96 Ev) for vanadium and Ni 3050,819 Å (V_ν - 4.09 Ev) for nickel are used as analytical lines. The line Co3044,005Å (V_ν - 4.07 Ev) is used for comparison (Fig.1). Three standards are used during these definitions. Figs. 2 and 3 give the determination of vanadium and nickel in the form of graphs, and results of test samples of petroleum products are given in a Table. There are 3 Figures and 1 Table.

ASSOCIATION: LenNII

1. Vanadium--Determination 2. Nickel--Determination
3. Petroleum--Spectrographic analysis

Card 2/2

AUTHOR: Aleksandrov, S. N. and Skop, S. L. SOV/65-58-11-13/15

TITLE: Dynamic Method for Determining the Specific Surface of Catalysts (Dinamicheskiy ekspress-metod opredeleniya udel'noy poverkhnosti katalizatorov)

PERIODICAL: Khimiya i Tekhnologiya Topliv i Masel, 1958, Nr 11, pp 62 - 66 (USSR)

ABSTRACT: The surface and the character of the pore structure of catalysts are important during the manufacture of the latter as these parameters determine the degree of catalytic activity, reflect changes occurring during processes, and indicate the degree of poisoning and regeneration of the catalysts. The specific surface of solid sorbents can be determined by changes during the physical adsorption of nitrogen, argon, benzene and other hydrocarbon gases at static conditions in vacuum plants at room temperature. Adsorption isotherms of the gas and vapour on the sorbent can be constructed and the specific surface calculated when defining the surface of porous and non-porous catalysts and sorbents by the adsorption method. The dynamic method of determination was described by Frieke (Ref. 4) and Davis (Ref.5), but these authors give no comparison of their results and those obtained by

Card 1/3

other methods. Investigations by Rubinshteyn and Afanas'yev (Ref.6) also Zettlemayer (Ref.7) are mentioned. A simple apparatus was constructed by the authors and the dynamic method modified to measuring the quantity of adsorbed benzene at a relative vapour pressure of benzene. Data by D.P.Dobychin was used and the ratio $\frac{P}{P_S}$ (the relative pressure of benzene vapours) taken to equal 0.205 for aluminium oxide, 0.222 for aluminium silicates and 0.238 for silica gel. Results were compared with data obtained by the BET method on a vacuum plant. The design of the apparatus (see figure) was similar to that described by Rubinshteyn (Ref.6). Parallel experiments were carried out on several samples (Table 1). Table 2 gives comparative results of measurement of the specific surface of a number of catalysts by the proposed method and by the Brunauer-Emmet-Teller method. Differences in the results obtained did not exceed 10%. The method appears to be sufficiently accurate for specific surfaces of 20 m^2/g and larger surfaces, and it can be used under

Dynamic Method for Determining the Specific Surface of Catalysts SOV/65-58-11-13/15

laboratory as well as under industrial conditions. There are 2 Tables, 1 Figure and 7 References: 4 Soviet, 1 German and 2 English.

ASSOCIATION: LenNii

Card 3/3

AUTHORS: Shmulyakovskiy, Ya.E. and Aleksandrov, S.N. SOV/170-59-3-13/20

TITLE: Flame Photometer PF-1 (Plamennoy fotometr PF-1)

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Nr 3, pp 92 - 96 (USSR)

ABSTRACT: Although many foreign firms manufacture flame photometers [Ref. 1 to 6] the Soviet optical industry has not as yet started to produce them. Therefore the authors devised and manufactured a flame photometer which is described and illustrated in the article. In this photometer, named PF-1, the acetylene-air flame is used for spectrum excitation of alkali and alkali earth elements, such as sodium, potassium, lithium, and calcium. The optical part of the photometer consists of two symmetric channels including diaphragms, lenses, thermal filters, interference color filters, and photocells. The emission of the flame is directed to an interference color filter which singles out the proper band in the spectrum and then to the surface of a photocell, which results in arising of electromotive force. The device is provided with four interference color filters for determination of the 4 above-mentioned elements. The emf of the photocell is measured with a mirror galvanometer of the GPZ-2 type. The electric circuit of the photometer is so devised (Figure 2)

Card 1/2

that it is possible to carry out measurements by two methods: 1. Measurement by direct readings, and 2. Inner standard method. In using either of these methods a calibrating graph is drawn in which the concentration of an element is plotted versus the readings of the scale of the galvanometer or the potentiometer. The graph is linear since the magnitude of the electromotive force generated is proportional to the amount of element being determined. Then, in actual measurements, the concentration is determined by using these graphs. In case of necessity it is possible to photograph flame spectrum with a spectrograph of the ISP-51 type. The authors recommend to set up serial production of the flame photometers by the optical industry.

There are: 1 schematic diagram, 1 circuit diagram, 1 graph, 1 table, and 11 references, 5 of which are Soviet, 2 German, 3 English, and 1 French.

ASSOCIATION: Institut neftekhimicheskikh protsessov (Institute of Oil-Chemical Processes), Leningrad

ALEKSANDROV, S.N.

49

PHASE I BOOK EXPLOITATION SOV/5435

Kiselev, P. N., Professor, G. A. Gusterin, and A. I. Strashinin, Eds.

Voprosy radiobiologii. t. III: Sbornik trudov, posvyashchennyy 60-letiyu so dnya rozhdeniya Professora M. N. Pobedinskogo (Problems in Radiation Biology. v. 3: A Collection of Works Dedicated to the Sixtieth Birthday of Professor M[ikhail] N[ikolayevich] Pobedinskiy [Doctor of Medicine]) Leningrad. Tsentr. n-issl. in-t med. radiologii M-va zdravookhrananiya SSSR, 1960. 422 p. 1,500 copies printed.

Tech. Ed.: P. S. Peleshuk.

PURPOSE: This collection of articles is intended for radiobiologists.

COVERAGE: The book contains 49 articles dealing with pathogenesis, prophylaxis, and therapy of radiation diseases. Individual articles describe investigations of the biological effects of radiation carried out by workers of the Central Scientific Research Institute for Medical Radiology of the Ministry of Public Health, USSR. [Tsentral'nyy nauchno-issledovatel'skiy institut meditsinskoy radiologii Ministerstva zdravookhraneniya SSSR] during 1958-59. The following

Card 1/10

Problems in Radiation Biology (Cont.) SOV/5435

topics are covered: various aspects of primary effects of radiation; the course of some metabolic processes in animals subjected to ionizing radiation; reactions in irradiated organisms; morphologic changes in radiation disease; and reparation and regeneration of tissues injured by irradiation. Some articles give attention to the effectiveness of experimental medical treatments. No personalities are mentioned. References accompany almost all of the articles.

TABLE OF CONTENTS:

Problems in Radiation Biology (Cont.) SOV/5435

ALEKSANDROV, S. N., mashinist kombayna, gornyy tekhnik

Better use of cutter-loaders. Ugol' Ukr. 7 no.4:32 Ap '63.
(MIRA 16:4)

1. Shakhta No. 4/5 "Nikitovka" Tresta predpriyatiy ugol'noy promyshlennosti Gorlovskogo rayona.

(Coal mining machinery)

OLEVSKIY, Viktor Aleksandrovich, kand.tekhn.nauk; ALEKSANDROV, S.P., prof., retsenzent; TROITSKIY, A.V., inzh., retsenzent; ALEKSANDROV, S.P., prof., otv.red.; YEZDOKOVA, M.L., red. izd-va; ISLENT'YEVA, P.G., tekhn.red.; PROZOROVSKAYA, V.L., tekhn.red.

[Design and calculation of mechanical classifiers and hydrocyclones] Konstruktsii i raschet mekhanicheskikh klassifikatorov i gidrotsiklonov. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1960. 314 p. (MIRA 13:7)
(Separators (Machines))

ALEKSANDROV, S. V.

Match Industry

Automatic selection of inner boxes on the labeling machine,
Der. i lesokhim. prom. 2 No. 2, 1953

Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

VANCHENKO, Petr Demidovich; ALEKSANDROV, S.V., red.; VOLOKHONSKAYA, L.V., red.izd-va; KUZNETSOVA, A.I., tekhn.red.

[Equipment for match manufacture; its installation, repair and maintenance] Oborudovanie spichechnogo proizvodstva, ego remont i montazh. Moskva, Goslesbumizdat, 1960. 207 p.
(MIRA 13:12)

(Match industry--Equipment and supplies)

ALEKSANDROV, S. V.

32488. O kontrole izolyatsii tstyrevykh izolyatorov megometrom. (S primech. red.) Elektr. stantsii, 1949, No. 10, s. 39-40.

SO: Letopis' Zhurnal'nykh Statey, Vol. 50, Moskva, 1949

ALEKSANDROV, S.V., elektromekhanik

How we seal the lock of switch interlockers. Avtom., telem. i sviaz' 2 no.11:25 N '58. (MIRA 11:12)

1.Vspol'inskaya distantsiya signalizatsii i svyazi Severnoy dorogi.
(Railroads--Signaling--Interlocking systems)

ALEKSANDROV, S.V.

Improving the quality and increasing the service time guaranty of products is an important task of the national economy. Der. prom. 11 no.11:1-3 N '62. (MIRA 15:12)

1. Upravleniye mebel'noy promyshlennosti Moskovskogo gorodskogo soveta narodnogo khozyaystva.
(Furniture industry—Quality control)

1. ALEKSANDROV, S.V.

2. USSR (600)

4. Agriculture

7. Raising vegetables in heated soil. Leningrad, Lenizdat. 1952

9. Monthly List of Russian Accessions, Library of Congress, March,1953.Unclassified.

BREZHNEV, D. D., ALEKSANDROV, S. V.

Tomatoes

New system of seed culture for hothouse varieties of tomatoes and cucumbers. Sad i og. No. 7, 1952.

9. Monthly List of Russian Accessions, Library of Congress, _____1953. Unclassified.

1. ALEKSANDROV, S. V.

2. USSR (600)

4. Cucumbers

7. Using hybrid seeds for increasing cucumber yield in greenhouses. Sad i og. no.10, 1952

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

ALEKSANDROV, S. V.; BOOS, G. V.

Vegetable Gardening

Effectiveness of growing vegetables in heated ground. Sad i og. No. 2, 1953.

Monthly List of Russian Accessions, Library of Congress, June 1953. UNCLASSIFIED.

ALEKSANDROV, S. V.

Vegetable "factory" (work practice of the Leningrad Greenhouse and Hotbed Combine) Leningrad Leningradskoe gazetno-shurnal'hoe i kn-noe izd-vo, 1955. 85 p.

1.Greenhouses. 2. Vegetable gardening- Leningrad (Province)

ALEKSANDROV, Sergey Vasil'yevich, kandidat sel'skokhozyaystvennykh nauk; BELYAYEV, Anton Semenovich; VASIL'YEV, Vasiliy Luk'yanovich, kandidat sel'skokhozyaystvennykh nauk; KAZAKOVA, Antonina Alekseyevna, kandidat sel'skokhozyaystvennykh nauk; KAMERAZ, Abram Yakovlevich, kandidat sel'skokhozyaystvennykh nauk; SECHKAREV, Boris Ivanovich, kandidat sel'skokhozyaystvennykh nauk; BREZHNEV, D.D., professor, doktor sel'skokhozyaystvennykh nauk, redaktor; PETROV, N.P., redaktor; CHUNAYEVA, Z.V., tekhnicheskiy redaktor

[Vegetable gardening]Ovoshchevodstvo. Pod red. D.D.Brezhneva. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 472 p. (MLRA 9:12)
(Vegetable gardening)

USSR/Cultivated Plants - Potatoes, Vegetables, Melons. M.

Abs Jour : Ref Zhur - Biol., No 10, 1958, 44126

Author : Aleksandrov, S.V.
Inst : -
Title : Producing Hybrid Cucumber and Tomato Seeds in Hothouses.

Orig Pub : Vestn. s.-kh. nauki, 1957, No 9, 46-57.

Abstract : This article describes the results of using hybrid cucumber and tomato seeds in the Leningradskaya Oblast. In cucumbers the best results in yield and quick ripening were obtained by using the hybrid seeds Klinskiy 2137 x the hothouse Leningradskiy 23. The difference in the yield from 1 m^2 was 6.1 kg compared with the control. The average weight of the fruit was greater. In obtaining hybrid seeds 2-3 seed fruits should be left on the plant. These fruits should be in the middle and top part of the plant. Selection of large seeds for sowing increases the yield

Card 1/2